I Claim

1 A tyre condition indicating device comprising a detector for detecting the condition of a tyre on a wheel or a wheel of a vehicle rotatable about a wheel axis, a signal emitter emitting a signal when the detector detects the said condition and power supply means providing power to the signal emitter to emit the signal as aforesaid, wherein the power supply means comprises an electric power generator comprising first and second parts that are relatively rotatable about a generator axis, the first part connected to the wheel to rotate thereby.

2 The device as claimed in claim 1 wherein the first part is rotatable with the wheel and wherein the wheel axis and generator axis are coincident.

3. The device as claimed in claim 1 wherein the second part is attached to a member arranged to be stationery or substantially stationery when the wheel is rotating.

4 A device as claimed in claim 3 wherein the second part is rotatably carried by the wheel and is attached to an offset weight which tends to hold the second part stationery when the wheel rotates.

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5 A device as claimed in claim 4 wherein the offset weight comprises a cross plate attached to the second part and a mass member, the cross plate being rotatable about its centre, through which the generator axis passes, and the mass member being carried by the cross plate eccentrically of the generator axis.

6 A device as claimed in claim 3 wherein the mass member comprises a substantially hemi-cylindrical part, the ends of which are connected to the ends of the cross member.

8 A device as claimed in claim 1, 2, 3 wherein the second part comprises a permanent magnet located within an electro-magnetic core which comprises the first part there being windings on the core connected to the signal emitter to provide it with electric power.

9 A device as claimed in claim 8 wherein the permanent magnet is arranged with its north/south axis parallel to the generator axis.

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7 A device as claimed in claim 1, 6 incorporating a housing with a generally cylindrical inner part centred on the generator axis and having an opening therein within which the core is received and a rotary support carrying the second part, there being

an annular space between the housing and the inner part within which space the hemi-cylindrical part is movable about the generator axis.

15 ~~10~~ A device as claimed in claim ~~1~~ 13 ~~preceding claims~~ wherein the detector is a tyre pressure detector.

18 ~~11~~ A device as claimed in claim 15 ~~10~~ for use with a tyre incorporating a tube that has a valve projecting through the wheel wherein the tyre pressure detector comprises a pressure transducer and a conduit connecting the transducer to the valve.

16 ~~12~~ A device as claimed in claim 15 ~~10~~ for use with a tubeless tyre having a valve projecting from the wheel, and wherein the entire pressure detecting incorporates a pressure transducer connected to the valve by a conduit.

19 ~~13~~ A device as claimed in claim 18 ~~11~~ further comprising a union connected in the conduit and incorporating a valve control member inlet through which the tyre can be inflated via the conduit.

17 ~~14~~ A device as claimed in claim 16 ~~12~~ further comprising a union connected in the conduit and incorporating a valve control member inlet through which the tyre can be inflated via the conduit.

10 (~~15~~) A device as claimed in claim 3 (~~1~~) wherein the the signal emitter comprises a radio frequency transmitter carried by a printed circuit board.

11 (~~16~~) A device as claimed in claim 10 (~~15~~) wherein the transmitter has an antenna formed from the printed circuit board.

18 (~~17~~) A device as claimed in claim 11 (~~11~~) wherein the the signal emitter comprises a radio frequency transmitter carried by a printed circuit board and wherein the transducer is mounted on the printed circuit board.

18 A device as claimed in claim 1 further comprising a counter connected to the transmitter whereby the transmitter can transmit a signal equivalent to the number of rotations that each wheel makes during a particular journey.

1 (~~19~~) A device as claimed in claim 18 (~~18~~) wherein the counter counts the number of relative revolutions of the first and second parts of the electric generator.

5 (~~20~~) A double wheel arrangement comprising a pair of wheels respectively carrying a pair of tires and a tyre indicating device as claimed in claim 3 (~~1~~) comprising a pair of detectors coupled respectively to the tires.

~~21~~ 12 A vehicle comprising a plurality of wheels each carrying a tyre and tyre condition indicating devices as claimed in claim ~~1~~ 2 3

~~22~~ 13 A vehicle as claimed in claim ~~21~~ 12 further comprising a driver's cabin and, within the driver's cabin, a receiver for receiving signals from the transmitter.

~~23~~ 14 A vehicle as claimed in claim ~~22~~ 13 wherein the receiver incorporates indicating means identifying each tyre whereby the driver will receive signals indicating the condition of each tyre.

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